What is claimed is:

1. Unsolvated crystalline efaproxiral sodium having an X-ray powder diffraction pattern with at least one peak selected from the group consisting of 3.2 ± 0.2° and 9.7± 0.2° in 2θ when obtained from a copper radiation source (CuKα λ=1.54 Å).

2. The unsolvated crystalline efaproxiral sodium of claim 1 which is further characterized by an X-ray powder diffraction pattern with at least one further peak selected from the group consisting of 7.6± 0.2° , 8.2± 0.2°, 12.9± 0.2°, 15.3± 0.2°, 16.4 ± 0.2°, 17.4± 0.2°, and 18.5± 0.2° in 2θ when obtained from a copper radiation source (CuKα λ=1.54 Å).

3. The unsolvated crystalline efaproxiral sodium of claim 1 or claim 2 which is further characterized by a reflectance Fourier transform infrared (FTIR) spectrum which shows at least one absorption band selected from the group consisting of 3274 ± 2 cm^{-1} , 955 ± 2 cm^{-1} and 736 ± 2 cm^{-1}.

4. Unsolvated crystalline efaproxiral sodium having an X-ray powder diffraction pattern with at least one peak selected from the group consisting of 11.5 ± 0.2°, 14.0± 0.2° , and 19.4± 0.2° in 2θ when obtained from a copper radiation source (CuKα λ=1.54 Å).

5. The unsolvated crystalline efaproxiral sodium of claim 4 which is further characterized by an X-ray powder diffraction pattern with at least one further peak selected from the group consisting of 8.6± 0.2°, 15.1± 0.2°, 16.5 ± 0.2° , 18.0± 0.2° , and 20.6± 0.2° in 2θ when obtained from a copper radiation source (CuKα λ=1.54 Å).

6. The unsolvated crystalline efaproxiral sodium of claim 4 or claim 5 which is further characterized by reflectance Fourier transform infrared (FTIR) spectrum which shows at least one absorption band selected from the group consisting of 3289 ± 2 cm^{-1}, 1338 ± 2 cm^{-1}, and 730 ± 2 cm^{-1}.

7. A crystalline solvate comprising efaproxiral sodium and a solvent selected from group consisting of water, ethanol, methanol and acetone.

8. The crystalline solvate of claim 7 wherein the solvent is water.

9. The crystalline solvate of claim 8 which comprises less than four moles of water per mole of efaproxiral sodium.

10. The crystalline efaproxiral sodium hydrate of claim 8 or claim 9 which is characterized by an X-ray powder diffraction pattern with a peak at 7.7 ± 0.2^{o} in 2θ when obtained from a copper radiation source (CuKα λ=1.54 Å).

11. The crystalline efaproxiral sodium hydrate of claim 10 which is further characterized by an X-ray powder diffraction pattern with at least one further peak selected from the group consisting of 3.1 ± 0.2^{o}, 9.4 ± 0.2^{o}, 12.5 ± 0.2^{o} and 15.6 ± 0.2^{o} in 2θ when obtained from a copper radiation source (CuKα λ=1.54 Å).

12. The crystalline efaproxiral sodium hydrate of any one of claims 8, 9, 10, or 11 which is further characterized by a reflectance Fourier transform infrared (FTIR) spectrum which shows an absorption band 2225 ± 2 cm^{-1}.

13. The crystalline solvate of claim 8 which comprises about four moles of water per mole of efaproxiral sodium.

14. The crystalline efaproxiral sodium hydrate of claim 8 or claim 13 which is characterized by an X-ray powder diffraction pattern with a peak at 11.0 ± 0.2^{o} in 2θ when obtained from a copper radiation source (CuKα λ=1.54 Å).

15. The crystalline efaproxiral sodium hydrate of claim 14 which is further characterized by an X-ray powder diffraction pattern with at least one further peak selected from the group consisting of 2.7 ± 0.2^{o}, 8.2 ± 0.2^{o}, 14.7 ± 0.2^{o}, 15.7 ± 0.2^{o}, and 16.1 ± 0.2^{o} in 2θ when obtained from a copper radiation source (CuKα λ=1.54 Å).

16. The crystalline solvate of claim 8 which comprises about seven moles of water per mole of efaproxiral sodium.

17. The crystalline efaproxiral sodium hydrate of claim 8 or claim 16 which is characterized by an X-ray powder diffraction pattern with a peak at 19.2 ± 0.2° in 2θ when obtained from a copper radiation source (CuKα λ=1.54 Å).

18. The crystalline efaproxiral sodium hydrate of claim 8 or claim 16 which is characterized by an X-ray powder diffraction pattern with peaks at 12.1± 0.2° and 12.8± 0.2° in 2θ when obtained from a copper radiation source (CuKα λ=1.54 Å).

19. The crystalline efaproxiral sodium hydrate of claim 17 or claim 18 which is further characterized by an X-ray powder diffraction pattern with at least one further peak selected from the group consisting of 3.2 ± 0.2° , 14.7± 0.2°, 15.7 ± 0.2° , and 16.1 ± 0.2° in 2θ when obtained from a copper radiation source (CuKα λ=1.54 Å).

20. The crystalline efaproxiral sodium hydrate of any one of claims 8, 16, 17, 18 or 19 which is further characterized by a reflectance Fourier transform infrared (FTIR) spectrum which shows at least one absorption band selected from the group consisting of 3618 ± 2 cm^{-1}, 1921 ± 2 cm^{-1}, and 1028 ± 2 cm^{-1}.

21. The crystalline solvate of claim 7 wherein the solvent is ethanol.

22. The crystalline solvate of claim 21 which comprises about one mole of ethanol per mole of efaproxiral sodium.

23. The crystalline efaproxiral sodium solvate of claim 21 or claim 22 which is characterized by an X-ray powder diffraction pattern which lacks peaks at 3.0 ± 0.2° and 3.8 ± 0.2° in 2θ and when obtained from a copper radiation source (CuKα λ=1.54 Å).

24. The crystalline efaproxiral sodium solvate of claim 21 or claim 22 which is characterized by an X-ray powder diffraction pattern with at least one peak selected from the group consisting of 10.2 ± 0.2° , 16.7± 0.2°, and 17.6 ± 0.2° in 2θ when obtained from a copper radiation source (CuKα λ=1.54 Å).

25. The crystalline efaproxiral sodium solvate of claim 23 or claim 24 which is further characterized by an X-ray powder diffraction pattern with at least one peak selected from the group consisting of 8.3± 0.2°, 8.5± 0.2°, 11.6 ± 0.2° , 13.0± 0.2°, 14.6 ± 0.2°, 18.1± 0.2°, and 20.5 ± 0.2° in 2θ when obtained from a copper radiation source (CuKα λ=1.54 Å).

26. The crystalline efaproxiral sodium solvate of any one of claims 22 or 23-25 which is further characterized by a reflectance Fourier transform infrared (FTIR) spectrum which shows at least one absorption band selected from the group consisting of 3086 ± 2 cm^{-1}, 1088 ± 2 cm^{-1}, and 903 ± 2 cm^{-1}.

27. A crystalline efaproxiral sodium solvate according to claim 21 having an X-ray powder diffraction pattern with at least one peak selected from the group consisting of 3.0 ± 0.2°, 3.8 ± 0.2° , 6.5± 0.2°, 9.2± 0.2°, and 12.2± 0.2° in 2θ when obtained from a copper radiation source (CuKα λ=1.54 Å).

28. Crystalline efaproxiral sodium characterized by an X-ray powder diffraction pattern with peaks at 3.0 ± 0.2° and 3.8 ± 0.2° in 2θ when obtained from a copper radiation source (CuKα λ=1.54 Å).

29. The crystalline efaproxiral sodium according to claim 27 or claim 28 which is further characterized by an X-ray powder diffraction pattern with at least one further peak selected from the group consisting of 7.7± 0.2°, 8.4± 0.2°, 13.4± 0.2°, 15.4± 0.2°, 15.8± 0.2°, 16.2± 0.2°, 18.3± 0.2°, 19.3± 0.2°, 19.8± 0.2°, and 20.1 ± 0.2° in 2θ when obtained from a copper radiation source (CuKα λ=1.54 Å).

30. The crystalline solvate of claim 7 wherein the solvent is acetone.

31. The crystalline solvate of claim 30 which comprises between about 1 mole and about 1/2 mole of acetone per mole of efaproxiral sodium.

32. The crystalline efaproxiral sodium solvate of claim 30 or claim 31 which is characterized by an X-ray powder diffraction pattern with at least one peak selected from the

group consisting of 3.7 ± 0.2°, 6.5± 0.2°, 8.4 ± 0.2° , 16.2± 0.2°, 18.3+0.2, 19.4± 0.2°, 19.8± 0.2°, and 20.1± 0.2° in 2θ when obtained from a copper radiation source (CuKα λ=1.54 Å).

33. The crystalline efaproxiral sodium solvate of any one of claims 30, 31, or 32 which is further characterized by a reflectance Fourier transform infrared (FTIR) spectrum which shows at least one absorption band selected from the group consisting of 3380 ± 2 cm^{-1}, 1701 ± 2 cm^{-1}, and 1645 ± 2 cm^{-1}.

34. The crystalline solvate of claim 7 wherein the solvent is methanol.

35. The crystalline solvate of claim 34 which comprises about 1 mole of methanol per mole of efaproxiral sodium.

36. The crystalline efaproxiral sodium solvate of claim 34 or claim 35 which is characterized by an X-ray powder diffraction pattern with at least one peak selected from the group consisting of 4.3 ± 0.2° , 8.9 ± 0.2° , 9.2± 0.2°, 11.5 ± 0.2°, 13.8 ± 0.2°, 14.3± 0.2°, 15.8± 0.2°, 16.2± 0.2°, 17.8± 0.2°, and 18.7± 0.2° in 2θ when obtained from a copper radiation source (CuKα λ=1.54 Å).

37. The crystalline efaproxiral sodium solvate of any one of claims 34, 35, or 36 which is further characterized by a reflectance Fourier transform infrared (FTIR) spectrum which shows at least one absorption band selected from the group consisting of 747 ± 2 cm^{-1} , 1053 ± 2 cm^{-1}, 1338 ± 2 cm^{-1}, and 1562 ± 2 cm^{-1}.

38. Amorphous efaproxiral sodium.

39. A pharmaceutical formulation comprising the crystalline efaproxiral sodium form of any one of claims 1-37 or the amorphous efaproxiral sodium form of claim 38 and one or more pharmaceutical carriers, diluents, or excipients.

40. A method for the preparation of an aqueous solution of efaproxiral sodium, the method comprising dissolving solid efaproxiral sodium of any one of claims 1-38 in a solution comprising water.

41. An aqueous solution of efaproxiral sodium produced according to the method of claim 40.

42. A method for preparing Form A crystalline efaproxiral sodium, the method comprising:

(a) dissolving efaproxiral sodium in water to form an aqueous solution;

(b) concentrating said aqueous solution to remove the maximum amount of water while maintaining the aqueous solution at a temperature of about 50°C;

(c) adding ethanol to the concentrated aqueous solution to provide a mixture having less than about 15 weight percent water content;

(d) cooling the ethanol/water mixture of (c) without precipitating the efaproxiral sodium from the ethanol/water mixture;

(e) adding acetone to the ethanol/water mixture to precipitate crystalline efaproxiral sodium; and

(f) cooling the mixture of step (d) to below about 25°C with stirring.

43. A method for preparing Form B crystalline efaproxiral sodium, the method comprising:

(a) dissolving efaproxiral sodium in acetone and water with heating to form a solution; and

(b) cooling said solution to precipitate efaproxiral sodium crystals.

44. A method for preparing Form I crystalline efaproxiral sodium comprising incubating Form A crystalline efaproxiral sodium at high relative humidity.

45. A method for preparing Form J crystalline efaproxiral sodium comprising slurrying Form A crystalline efaproxiral sodium in water.

46. A method for preparing Form C crystalline efaproxiral sodium comprising dehydrating Form I crystalline efaproxiral sodium or Form J crystalline efaproxiral sodium.

47. A method for preparing Form Q crystalline efaproxiral sodium comprising:

(a) dissolving efaproxiral sodium in ethanol with stirring at elevated temperature;

(b) adding acetone to the solution of (a) with continued stirring;

(c) cooling the solution of (b) below 25°C with continued stirring wherein crystalline efaproxiral sodium is formed.

48. A method for producing Form G crystalline efaproxiral sodium comprising slurrying Form A crystalline efaproxiral sodium in a mixture of acetonitrile and ethanol.

49. A method for producing Form F crystalline efaproxiral sodium comprising dissolving efaproxiral sodium in methanol and removing said methanol using vapor diffusion.

50. A method for producing Form P crystalline efaproxiral sodium comprising dissolving efaproxiral sodium in ethanol and cooling said solution to precipitate crystalline efaproxiral sodium.

51. Crystalline efaproxiral sodium produced according to the method of any one of claims 42-50.

52. A method for producing amorphous efaproxiral sodium comprising freeze-drying efaproxiral sodium dissolved in dioxane and water.

53. A method for treating a condition selected from the group consisting of whole body or tissue hypothermia, hypoxia or hypotension, wounds, brain injury, diabetic ulcers, chronic leg ulcers, pressure sores, tissue transplants, stroke or cerebro ischemia, ischemia or oxygen deprivation, respiratory disorders including acute respiratory distress syndrome and chronic obstructive pulmonary disorder, surgical blood loss, sepsis, multi-system organ failure, normovolemic hemodilution procedures, carbon monoxide poisoning, bypass surgery, carcinogenic tumors, and oxygen deprivation of a fetus comprising the step of administering to a patient suffering from or undergoing said condition a sufficient quantity of the composition of any one of claims 1-39, 41 and 51.

****